



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/511,931	02/24/2000	Takayuki Sugawara	9281-3561	5649

757 7590 10/06/2003

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, IL 60611

EXAMINER

BAKER, STEPHEN M

ART UNIT PAPER NUMBER

2133

DATE MAILED: 10/06/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

7

**Office Action Summary**

Application No.

09/511,931

Applicant(s)

SUGAWARA ET AL.

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,737,344 to Belser *et al* (hereafter Belser).

Belser discloses a computer system where disk data error correction over individual sectors is apparently performed by hardware (214) and error correction over multiple sectors, based on a parity sector, is apparently performed by the host computer (212).

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,252,961 to Hogan (hereafter Hogan) in view of U.S. Patent No. 6,357,030 to Demura *et al* (hereafter Demura).

Hogan discloses a computer DVD system where DVD data error correction is performed at least partly by the host. The drive controller may also perform error correction on-the-fly.

Regarding claim 1, Hogan doesn't specify that the drive's on-the-fly ECC process be performed one sector at a time while the host's ECC process be performed over multiple sectors at a time. Hogan's on-the-fly correction presumably would progress along rows of the double-encoded DVD block shown in Hogan's Fig. 4.

Demura shows that it was well known in disk ECC for DVD to encode a higher level of ECC over multiple sectors of a lower level of ECC. Reading apparently progresses a sector at a time. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Hogan's DVD drive system such that the drive's on-the-fly ECC process is performed sector at a time while the host's ECC process is performed over multiple sectors at a time. Such an implementation would have been obvious because Demura shows that it was well known in disk ECC for DVD to encode a higher level of ECC over multiple units of a lower level of ECC.

Regarding claim 2, Official notice is taken that the desirability of providing disk drives with the capacity to be compatible with a variety of disk formats and distinguish between the variety of disk formats was well known at the time the invention was made. A CD-ROM provides a "high-reliability disk" with an extra level of ECC compared to a CD. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Hogan's computer DVD system with a disk drive

Art Unit: 2133

that can distinguish between DVDs, CD-ROMs and CDs and process their ECCs appropriately. Such an implementation would have been obvious because the desirability of providing disk drives with the capacity to be compatible with a variety of disk formats and distinguish between the variety of disk formats was well known.

Regarding claim 3, Official notice is taken that the desirability of providing ECC decoding for a variety of disk formats and of distinguishing between the variety of disk formats was well known at the time the invention was made. Official notice is also taken that providing information on a disk to distinguish the disk format was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Hogan's computer DVD system with a disk drive that can distinguish between disk formats by information written to the disk, and that can process their ECCs appropriately. Such an implementation would have been obvious because providing information on a disk to distinguish the disk format was well known, as was the desirability of providing disk drives with the capacity to distinguish between formats and decode formats appropriately.

Regarding claims 5-7, each sector corresponds to a "physical address".

Regarding claim 8, both levels of error correction share "common" sectors.

5. Claims 2-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belser.

Belser discloses a computer system where disk data error correction over individual sectors is apparently performed by hardware (214) and error correction over

multiple sectors, based on a parity sector, is apparently performed by the host computer (212).

Regarding claim 2, Belser does not teach providing the disk drive with the capacity to be compatible with a variety of disk formats and distinguish between the variety of disk formats. Official notice is taken that the desirability of providing disk drives with the capacity to be compatible with a variety of disk formats and distinguish between the variety of disk formats was well known at the time the invention was made. A CD-ROM provides a "high-reliability disk" with an extra level of ECC compared to a CD. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Belser's computer system with a disk drive that can distinguish between DVDs, CD-ROMs and CDs and process their ECCs appropriately. Such an implementation would have been obvious because the desirability of providing disk drives with the capacity to be compatible with a variety of disk formats and distinguish between the variety of disk formats was well known.

Regarding claim 3, Belser does not teach providing ECC decoding for a variety of disk formats and of distinguishing between the variety of disk formats. Official notice is taken that the desirability of providing ECC decoding for a variety of disk formats and of distinguishing between the variety of disk formats was well known at the time the invention was made. Official notice is also taken that providing information on a disk to distinguish the disk format was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Belser's computer system with a disk drive that can distinguish

Art Unit: 2133

between disk formats by information written to the disk, and that can process their ECCs appropriately. Such an implementation would have been obvious because providing information on a disk to distinguish the disk format was well known, as was the desirability of providing disk drives with the capacity to distinguish between formats and decode formats appropriately.

Regarding claims 5-7, each of Belser's sectors corresponds to a "physical address".

Regarding claim 8, both levels of Belser's error correction share "common" sectors.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703) 305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2133

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.



Stephen M. Baker  
Primary Examiner  
Art Unit 2133

smb